

2. Digital twins and digital transformation of agricultural enterprises / A. I. Borovkov, Yu. A. Ryabov, K. V. Kukushkin [et al.] // Bulletin of the East Siberian Open Academy. - 2019. – No. 32. – P. 39.

3. Digital enterprise: transformation into a new reality / V.I. Ananyin [et al.] // Business Informatics. 2018. No. 2 (44). P. 45.

## **DEVELOPMENT OF THE CUSTOMS POLICY OF THE REPUBLIC OF BELARUS DURING THE PERIOD OF ECONOMIC SANCTIONS**

Литвинюк К.В.

Научный руководитель: преподаватель Новикова Е.А.  
Белорусский национальный технический университет

In the context of economic sanctions from international economic partners, the Republic of Belarus is forced to review its customs policy and adapt to new challenges. We have researched the current state of the customs policy of the Republic of Belarus and proposed effective measures for its development in the context of economic sanctions. Our analysis included studying changes in the global economy and the experience of other countries that have already taken necessary measures to protect their economies under sanctions [1].

The introduction of sanctions against the Republic of Belarus entails the need to review the country's customs policy. In conditions of restrictions and limited access to traditional markets, it is necessary to develop new export directions, attract investments, improve the quality of customs service, implement new technologies, and simplify customs procedures. In this context, it is a relevant task to determine the most effective measures for the development of the customs policy of the Republic of Belarus under sanctions. Under sanctions, the customs policy of the Republic of Belarus should be adapted to the changing conditions of the global economy. Here are a few ways that we can use to develop customs policy under these conditions:

Development of technical equipment of customs procedures. The implementation of modern technologies and equipment will accelerate the process of customs control and reduce the costs of its implementation. This will allow us to become more competitive in the global market and improve the economic situation in the country. Within this area, there are several specific activities that can be highlighted:

Implementation of an electronic declaration system. This will speed up the document processing procedure and reduce the time required for customs control. It will also reduce the probability of errors and improve the quality of data.

Installation of new scanners and detection systems. Modern scanners can detect hidden objects and substances, which increases the efficiency of customs control and allows for more accurate risk assessment.

Use of automatic license plate recognition system. This will allow for faster processing of information about vehicles and simplify the customs control procedure.

Development of video surveillance systems at customs posts. This will not only ensure security on the customs post premises but also monitor the customs declaration and document processing procedures.

Development and implementation of software for automation of customs control. Such programs allow for automatic data processing, risk assessment, and acceleration of customs control procedures.

Extension of e-commerce application. In the conditions of sanctions, e-commerce can become one of the most promising directions for the development of the economy. Its development requires the creation of appropriate legal and technical conditions, as well as ensuring safety and protection of consumer rights. The development of e-commerce in the customs policy of the Republic of Belarus includes the following actions:

- Implementation of electronic services in customs procedures. For example, automated control systems for the movement of goods across the customs border, electronic declarant, electronic payment, etc.

- Simplification of customs clearance procedures for small and medium-sized enterprises using e-commerce. This includes, for example, reducing the list of documents for customs clearance and speeding up procedures.

- Development of electronic payment systems for settlements during customs clearance. This allows reducing the risks of fraud and accelerating procedures.

- Improving the qualifications of customs officers in the field of e-commerce. This is necessary for effective control over the movement of goods across the customs border [2].

E-commerce allows reducing the time for customs procedures and reducing the costs of transporting and storing goods. In addition, it also helps to reduce the risks of errors in filling out documents and improve control over the movement of goods across the border. In Belarus, there are already electronic trading platforms, such as "Mercury" and "Unified electronic trading platform". However, for more widespread use of e-commerce, it is necessary to improve infrastructure and increase the level of digital literacy among business participants. Expansion of e-commerce application can also lead to an increase in the volume of exports and imports of goods to Belarus, which in turn can contribute to the growth of the country's economy and improvement of the population's living standards. [3] As a result of the expansion of e-commerce application in the customs policy of the Republic of Belarus during the period of economic sanctions, the efficiency of

customs procedures has increased, the costs of customs clearance have decreased, the movement of goods across the border has accelerated, and the transparency of customs procedures has increased. In addition, this contributes to the development of international trade and the competitiveness of Belarusian enterprises in the global market.

Strengthening control over transit cargo transportation. Transit transportation is one of the most vulnerable links in the supply chain of goods. Strengthening control over transit will help prevent illegal import of goods and reduce risks associated with transporting cargo through the territory of the Republic of Belarus. In simple terms, this means increasing checks on cargo and transportation passing through Belarus to prevent illegal activity and ensure safety. This includes the use of new technologies for cargo scanning, improving technical support, and verifying documents in transportation. These measures help reduce crime and increase trust in Belarus as a transit country.

Development of international cooperation. In the conditions of sanctions, international cooperation can become a key factor in the development of the economy of the Republic of Belarus. It is necessary to strengthen relations with our traditional partners and find new opportunities for cooperation with other countries. Our state continues to cooperate with countries in Asia, Africa, and others. This helps to maintain openness for international trade and economic cooperation and to strengthen our relationships with partner countries. To achieve this, Belarus uses diplomatic and economic channels to reach agreements on joint activities in the field of customs policy and to encourage the participation of other countries in trade relations.

Development of customs expertise. The development of customs expertise can help to reduce the risks of importing low-quality goods, as well as ensure the protection of intellectual property. To achieve this goal, Belarus carries out regular modernization of equipment and technologies used in customs expertise and trains specialists in accordance with international standards. Another important aspect is cooperation with other countries and international organizations in the exchange of experience and knowledge transfer.

Thus, the conducted research has shown that the development of customs policy in the Republic of Belarus during the period of economic sanctions is an integral part of the national economic policy. It is aimed at promoting the development of foreign economic relations, ensuring the security of the state and its citizens, as well as improving the quality of life of the population. One of the main results of the research is the identification of the features of the customs policy in the Republic of Belarus during the period of economic sanctions. It has been shown that Belarus actively develops customs expertise and improves customs control, which contributes to the increase in the level of protection of state interests and the strengthening of the country's positions in the world market.

Analyzing the international experience, we have confirmed that successful development of customs policy is possible only with an effective management system, transparency and openness of processes, as well as active cooperation with other countries and international organizations. Overall, it can be concluded that the development of customs policy in the Republic of Belarus during the period of economic sanctions is a necessary condition for the successful development of the country's economy, strengthening its positions in the world market, and ensuring the security of the state and its citizens.

### **Литература**

1. Ershov A.D. International customs relations. Spb. 2000.-P.55.
2. Gruzitsky Yu. L. Customs business / Yu. L. Gruzitsky – M.: Higher School, 2015.-P.300.
3. Filkevich I.A. Foreign economic policy of the state. Gomel., 2002.-P.100.

### **SONNENKOLLEKTOREN**

Лукашук А.С., Томашевич М.В.

Научный руководитель: ст. преподаватель Слинченко И.В.  
Белорусский национальный технический университет

Sonnenkollektoren sind eine gute Alternative zu herkömmlichen Quellen, die sich durch die Einfachheit des Geräts auszeichnen. Ein typisches Solarsystem besteht aus folgenden Hauptteilen:

1 - Controller, 2 - Batterie, 3 - Wechselrichter, 4 - Kollektor, 5 - elektrische Ausrüstung.

Die wichtigste Komponente des Kollektorsystems (Sonnenkollektoren) nimmt die Sonnenstrahlung auf und wandelt sie in konstanten elektrischen Strom um. Auf der Grundlage solcher Platten werden Arbeitsmodule gesammelt, die in Sonnenkollektoren mit einer bestimmten Leistung kombiniert sind. Ein integrierter Controller ist erforderlich, um den Prozess der Ansammlung elektrischer Energie in Batterien zu steuern, deren Ladestrom auf einem festen Niveau gehalten wird. Das elektronische Invertergerät ermöglicht es, die für den Betrieb der Ausrüstung notwendigen 220 V-Variablen aus der Gleichstromspannung zu beziehen.

Das Funktionsprinzip eines solchen Systems ist sehr einfach. Wenn die Solarzellen mit Sonnenlicht in Berührung kommen, beginnt elektrischer Strom über sie zu fließen, der über den Controller in den Ladekreis des Akkus gelangt. Eine vollständig infizierte Batterie überträgt die gespeicherte Ladung an eine